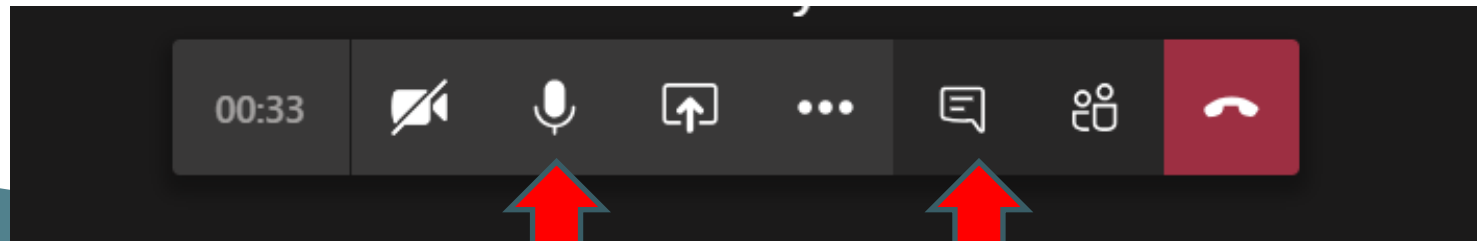


Housekeeping

- Please keep your mic/phone muted unless speaking
- Only use the “chat” function for official comments or to request to speak
- The meeting is being recorded
- Cameras are optional



Michigan Dam Safety Program



Who Are We?

Dam Safety Program Staff

- Mario Fusco, Jr., P.E., Supervisor
 - Lansing 517-256-4458 fuscom@Michigan.gov
- Dan DeVaun, P.E.
 - Cadillac 989-370-1528 devaund@Michigan.gov
- Luke Trumble, P.E.
 - Lansing 517-420-8923 trumblel@Michigan.gov

Dam Safety Staff

www.mi.gov/damsafety

To Report Dam Safety Emergencies to EGLE:

800-292-4706 (from within Michigan)

517-373-7660 (from outside Michigan)



[Dan DeVaun](#) 989-370-1528
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PO Box 30458
525 West Allegan Street
Lansing 48909

[Mario Fusco](#) 517-256-4458
Supervisor, Hydrologic Studies and Dam Safety
PO Box 30458
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Dam Safety Program Budget

Funding Sources:

- MOU with DNR for inspection of DNR Dams - \$112,300
- FEMA National Dam Safety Program Grant - \$87,000
- State of Michigan General Fund - \$74,200
- EGLE-WRD Permit Fees - \$74,200
- Total - \$348,100

Expenditures:

- Staffing (2 FTEs) - \$300,000
- Travel - \$4,000
- Supplies - \$300
- DNR Inspections - \$37,500
- Contracts - \$2,500
- Other - \$3,800
- Total - \$348,100

What do we do?

Statutes Administered by Dam Safety Program

Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NREPA)

- Part 307, Inland Lake Levels
- Part 315, Dam Safety

Overall Goal: Reduce/Prevent Dam Failures

- An incident resulting in an unplanned or uncontrolled release of water from a dam.

Part 307, Inland Lake Levels

- **Process to establish and maintain legal lake levels**
- **Set up special assessment districts to fund construction, inspection, maintenance, and repair of dams**
- **Requires dam inspection every three years**
- **We review inspection reports and provide comments**
- **Do NOT issue Part 307 permits**
 - review plans and issue approval letters



Part 315, Dam Safety

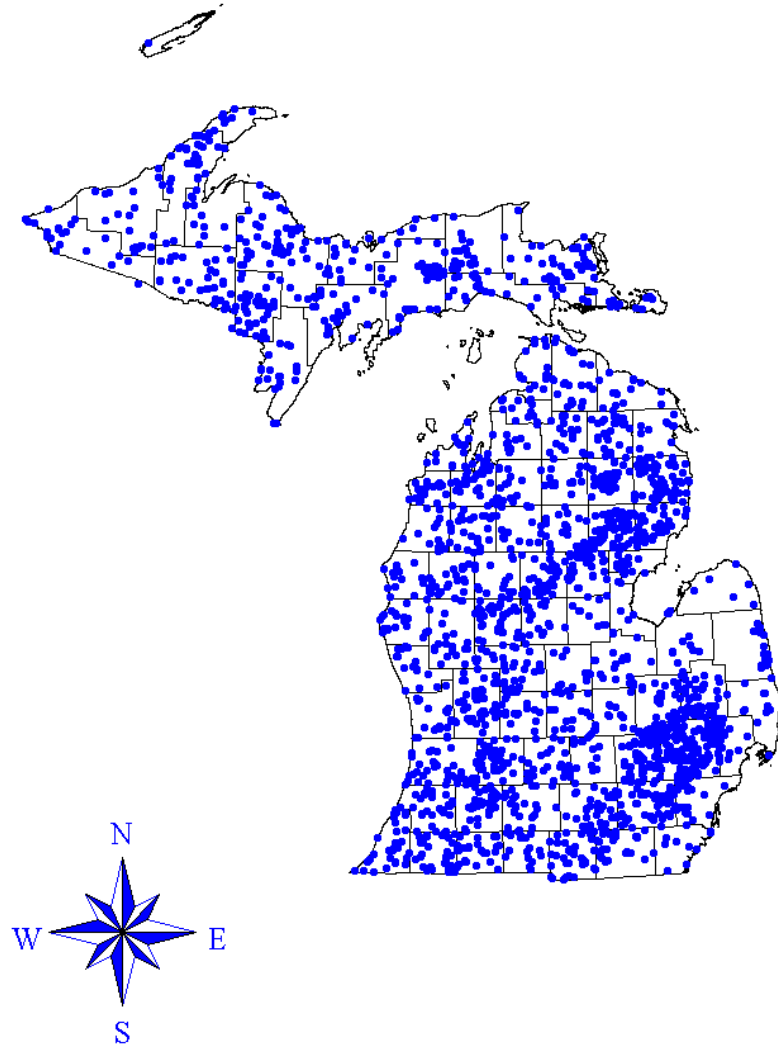
- Formerly known as “Dam Safety Act, 1989 PA 300, as amended”
- Grants the department the authority to enforce statute and issue permits for dam related activities
- Mandates inspection of regulated dams
- Inspect state and municipally owned dams
- Review and provide comments on consultants’ inspection reports for privately owned dams
- Review Emergency Action Plans (EAPs)
- Take enforcement action when dams are out of compliance with Part 315 regulations
- Issue permits for construction of new dams and alterations, enlargement, or removal of existing dams



Inventory of Michigan Dams

- In every county
- Over 2600 structures
 - ~825 Part 315 dams
 - ~235 Part 307 dams
- Continuously updated
- Currently updating to a web-based platform
- Interactive Map:
 - <https://mdeq.maps.arcgis.com/apps/webappviewer/index.html?id=f8c0637f34864bcabb9c794fd8e452b>

Michigan Dams



What is a dam?

Part 315 Regulated Dam – Definition

- An artificial barrier, including dikes, embankments, and appurtenant works, that impounds, diverts, or is designed to impound or divert water or a combination of water and any other liquid or material in the water; that is or will be when complete 6 feet or more in height; and that has or will have an impounding capacity at design flood elevation of 5 surface acres or more.



Hazard Potential Classification

- Determined by the Dam Safety Program
- Based upon potential downstream impacts caused by failure of the dam
- NOT based upon the structural condition of the dam



Hazard Potential

- Three hazard potential categories:
 - High – expected loss of life, severe impacts
 - Significant – possible loss of life, significant impacts
 - Low – no loss of life, minor impacts
- Inspection Frequency:
 - High – once every 3 years
 - Significant – once every 4 years
 - Low – once every 5 years
- Only High and Significant hazard potential dams require EAPs

Emergency Action Plans

- Specifies who to notify in the event of an impending or actual dam failure
 - Emergency management and responders
 - Downstream residents
 - National Weather Service
 - Downstream dam owners
 - Technical consultants
 - Contractors
 - Dam Safety Program
- Identify downstream impacts
 - Inundation maps or list of affected areas
 - Downstream infrastructure
- Specifies Actions to be taken
 - Dam repairs (if possible and safe)
 - Evacuations
 - Road closings
- The Dam Safety Program reviews EAPs to make sure they contain the required elements, and provides suggestions to improve the effectiveness of the plans

Inspection Report Requirements

- Must Be Conducted by a Licensed Professional Engineer
- Evaluation of Dam's Structural Condition
- Evaluation of Dam's Spillway Capacity
- Make Recommendations as Necessary to Meet Safety Standards
- Assigned an overall condition assessment

Condition Assessments

- Satisfactory
 - No existing or potential dam safety deficiencies are recognized. Acceptable performance is expected under all loading conditions.
- Fair
 - No existing dam safety deficiencies are recognized for normal loading conditions. Rare or extreme hydrologic and/or seismic events may result in a dam safety deficiency.
- Poor
 - A dam safety deficiency is recognized for loading conditions that may realistically occur. Remedial action or further investigations and studies are necessary to determine risk.
- Unsatisfactory
 - A dam safety deficiency is recognized that requires immediate or emergency remedial action for problem resolution.
- Not rated
 - The dam has not been inspected, is not under State jurisdiction, or has been inspected but, for whatever reason, has not been rated.

High Hazard Potential Dams

- There are 85 state regulated High Hazard Potential Dams in Michigan.
 - Of those 85 High Hazard Potential Dams:
 - Zero (0) are in unsatisfactory condition – 0%
 - Six (6) are in poor condition – 7.1%
 - Nineteen (19) are in fair condition – 22.4%
 - Fifty-nine (59) are in satisfactory condition – 69.4%
 - One (1) is unrated – 1.1%

When Deficiencies are Identified

- Deficiencies are typically identified in inspection reports, along with recommended actions, and timeframe for implementation of a remedy.
 - Can also be reported by the owner or observed by Dam Safety Program staff during review of inspection reports or site visits.
 - Dam Safety Program then work with the dam owner to amicably resolve any issues identified.
 - If a dam owner fails to resolve any issues within the timeline provided by their consultant and/or EGLE, then EGLE will consider escalated enforcement action.

Escalated Enforcement Action

- Typically starts with a letter to the owner directing them to submit an acceptable plan and schedule for addressing the identified deficiency.
- When there is no action by the owner, EGLE may take the following actions:
 - Issue a Notice of Violation and impose civil fines.
 - Up to \$10,000 per day of violation
 - Issue an order under Section 31518 of Part 315
 - When a condition exists that endangers the dam
 - Order the owner to take actions to alleviate the danger

Escalated Enforcement Action (cont'd)

- Issue an order under Section 31519 of Part 315
 - When significant damage to public health, safety, welfare, or natural resources is resulting from the operation, condition, or existence of a dam.
 - Order the owner to limit operations of the dam or remove the dam.
- Issue an emergency order under Section 31521 of Part 315
 - When a dam is in imminent danger of failure or threatening to cause harm to public health, safety, welfare, property, or natural resources
 - Order the owner to immediately repair, draw down, breach, or cease operation of a dam
 - If the owner will not/cannot comply with the order, then EGLE may step in and take necessary actions to alleviate the danger
 - EGLE can then sue the owner to recoup costs

Available Resources

- National Inventory of Dams
 - <https://nid.sec.usace.army.mil/ords/f?p=105:1:.....>
- FEMA National Dam Safety Program:
 - <https://www.fema.gov/national-dam-safety-program>
- EGLE Dam Safety Program:
 - Website: https://www.michigan.gov/egle/0,9429,7-135-3313_3684_3723---,00.html
 - Existing Inspection Reports and EAPs on file
 - Obtained through FOIA request
- Association of State Dam Safety Officials (ASDSO)
 - <https://www.damsafety.org/>

Any Questions?
